OTTERLAND

Biologische Vielfalt
Das Bundesprogramm

Germany Otterland Once Again

Reconnection of Aquatic Landscapes for the Eurasian Otter

8 Partners from science and nature conservation have joined forces to support the recolonization of the Eurasian otter (*Lutra lutra*) in Germany in a southwestern direction and to **improve the conservation status** of the otter population by reconnecting aquatic landscapes.

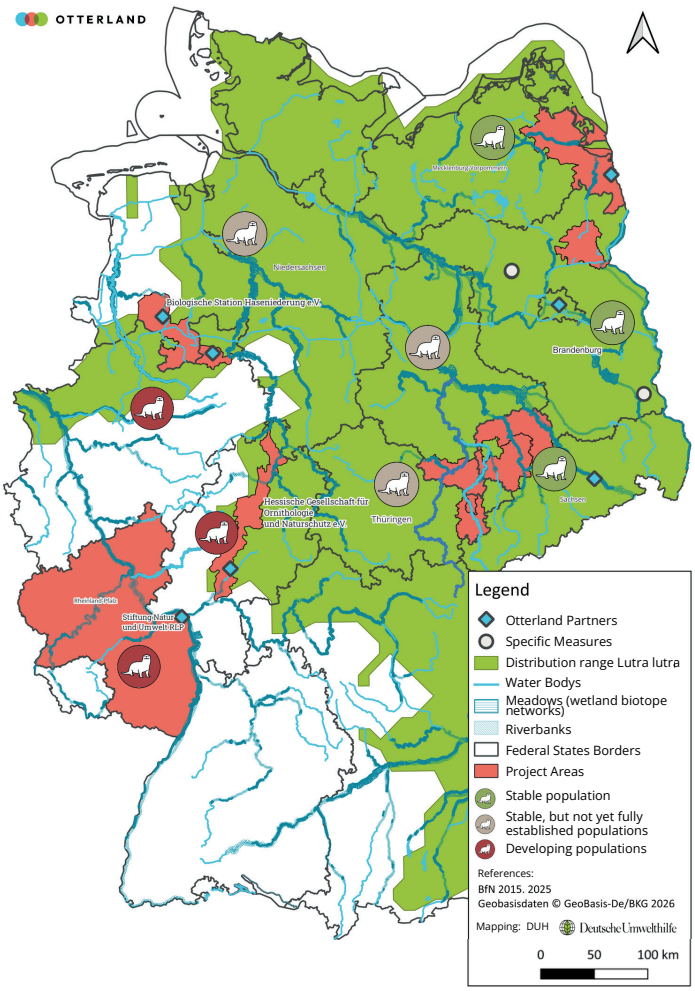
Issues the Project adresses

Fragmentation and Traffic Mortality

Severe fragmentation of aquatic habitats causes high road mortality in the highly mobile, semi-aquatic Eurasian otter. Estimates suggest **several hundred otters** die annually on German roads. Most roadkills occur in **eastern Germany** (Brandenburg, Saxony, Saxony-Anhalt), where road networks intersect key **riparian corridors and dispersal routes**.

Water Quality and Climate Stressors

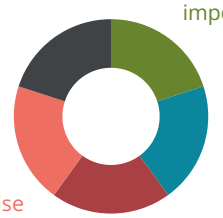
- **91% of water bodies** in Germany fail to achieve good ecological status under the EU Water Framework Directive.
- **Pollutants** directly and indirectly affect aquatic ecosystems.
- **Wastewater discharge permits** rarely consider low-flow or extreme weather conditions, leaving ecosystems vulnerable to climate impacts.
- **River modifications** (e.g., regulation, channelization) reduce ecological resilience and degrade habitat quality.
- **Declining fish biomass** is observed globally and regionally, including in German rivers such as those in Thuringia.



Project Objectives

Enhancement of methodological, technical, and problem-solving capacities among project partners and stakeholders.

Development and implementation of targeted measures to eliminate hazards and impairments in water bodies located in areas of particular importance for the Eurasian otter.



Development of a data platform and planning tool to derive recommendations for effective, supra-regional conservation action.

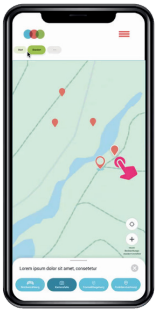
Processing and dissemination of new findings to raise awareness, provide training, and activate relevant (specialist) actors.

Raising awareness and fostering public engagement for otter conservation and promoting the ecological connectivity of aquatic landscapes.



model regions form the strong foundation of the project's practice-oriented approach. In these regions, **obstacles are analyzed** under varying local conditions, **solutions are developed**, and concrete **measures to improve habitat quality and connectivity** are implemented - for example, by installing a floating berm. Another key focus lies in reducing regional threats and managing conflicts.

Data, Mapping & Modeling



Monitoring App Development for standardized recording of monitoring data (spraints & footprints, habitat data & disturbances) for point surveys/ bridges/ detection dog tran-sects, which will result in a point-based habitat suitability index.

Using a non-invasive genetic capture-recapture method, population density is estimated exemplarily in 3 regions with diverse populations. Along an approximately 50 km long river system, 80–100 marking sites were systematically surveyed over five consecutive days. Fresh spraints were sampled and genotyped in the laboratory. The results may be extrapolated to additional administrative districts and integrated into the **planning tool.**

A nationwide **Habitat Suitability Index (HSI)** is being developed using project and existing landscape data. While the HSI reflects site conditions at a given time, repeated surveys ensure reliable assessments.

The **Planning Tool** is an interactive open-source GIS platform integrating data from official registries, historical projects, Otterland surveys, the HSI and Habitats Directive monitoring data. It links ecological, spatial, and legal information with planned and implemented measures to assess current otter distribution, model future scenarios, and support risk and conflict analyses for effective conservation planning.

Social-Scientific Research

The social-scientific part of the project has three main components. First, we design and conduct transdisciplinary workshops in selected model regions to learn from stakeholders, raise awareness, and **anticipate potential conflicts**, generating transferable knowledge. Second, we carry out a conflict analysis of the **fish otter–pond fishing issue in Bavaria** using semi-structured interviews, guided by the Levels of Conflict approach (1), Societal Relations with Nature approach (8), and Social Identity Theory frameworks (12), analyzed through content analysis. Third, we examine **behavioral changes** that could support fish otter recovery through expert interviews and surveys.

References

[1] Becker, E. & Jahn, T. (2003). Umrisse einer kritischen Theorie gesellschaftlicher Naturverhältnisse. Kritische Theorie der Technik und der Natur. München: Wilhelm Fink, 91–112.
[2] Berghöfer, U., Rode, J., Jax, K., Förster, J., Berghöfer, A. & Wittmer, H. (2022). „'Societal Relationships with Nature': A Framework for Understanding Nature-related Conflicts and Multiple Values". People and Nature 4(2):534–48. doi:10.1002/pan3.10305.
[3] BMUV/UBA (2022). Die Wasserrahmenrichtlinie – Gewässer in Deutschland 2021. Fortschritte und Herausforderungen. Bonn, Dessau.
[4] Wolter, C., Geßner, J., Köhler, J., Pusch, M., Goldhammer, T. & Spahr, S. (2022). Die Zukunft der Oder. IGB Policiy Brief, Leibnitz-Institut für Gewässerökologie und Binnenfischerei, Berlin, 107.
[5] Garack, S., Neubert, M., Sauer, A., Albrecht, J., Günther, K., Friedrichs-Manthey, M., Wollrab, S., Jähnig, S., Berger, S. A., Kienel, U., & Kirillin, G. (2022).Entwicklung der ökologischen Beschaffenheit von Oberflächengewässern im Klimawandel – Wirkungsmechanismen, Modellierungsansätze und Handlungsempfehlungen zur Umsetzung der EG-WRRL: Vol. 139/2022 Umweltbundesamt.
[6] Grogan, A., Green, R., & Rushton, S. (2013). The impacts of roads on Eurasian otters (Lutra lutra). IUCN Otter Spec. Group Bull., 30(1), 44–58.
[7] LAWA (2024). Berücksichtigung von Niedrigwasserphasen oder Extremereignissen bei der Zulassung von Abwassereinleitungen. Bund/Länder-Arbeitsgemeinschaft Wasser (LAWA).
[8] Madden, F. & McQuinn, B. (2014). „Conservation's Blind Spot: The Case for Conflict Transformation in Wildlife Conservation". Biological Conservation 178:97–106. doi:10.1016/j.biocon.2014.07.015.
[9] Nationale Expertengruppe des BfN (2022). Fischsterben in der Oder. Statusbericht 2022. https://www.bmuv.de/fileadmin/Daten_BMU/Download_PDF/Naturschutz/Bericht_-_Fischsterben_in_der_Oder_20220929_bf.pdf (accessed 13. Februar 2025).
[10] Roy, A. & Knitter, D. (2023). Risikoanalyse zu Auswirkungen des Klimawandels auf die weitere Ausbreitung des Fischotters Lutra lutra in Deutschland.
[11] Schmalz, M. (2020). Einflüsse verschiedener Faktoren auf die Fischfauna der Fließgewässer in Thüringen zwischen 2005 und 2018. Projektbericht „Fischotterschutz in Thüringen - Lebensräume verbinden, Lösungen aufzeigen, Akzeptanz fördern", Deutsche Umwelthilfe e. V.
[12] Tajfel, H., & Turner, J. C. (1979). „An Integrative Theory of Intergroup Conflict". in The Social Psychology of Intergroup Relations. Bd. 1.
[13] WWF (2021). The worlds forgotten fishes. https://wwf.panda.org/discover/our_focus/freshwater_practice/the_world_s_forgotten_fishes/ (accessed 13.Februar 2025).
[14] Zimmermann, A., McQuinn, B. & Macdonald, D. W. (2020). „Levels of Conflict over Wildlife: Understanding and Addressing the Right Problem". Conservation Science and Practice 2(10):e259. doi:10.1111/csp2.259.

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